

2015-16 RABBIT HUNTING COOPERATOR SURVEY REPORT



KENTUCKY DEPARTMENT OF FISH AND WILDLIFE RESOURCES

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METHODS

The 2015-16 Rabbit Hunting Cooperator Survey Report is a summary of two annual surveys conducted by the Kentucky Department of Fish and Wildlife Resources (KDFWR) to estimate rabbit production, hunter effort, and hunter success. First, the Rabbit Hunter Log Survey is a diary-type hunting log used to record information from hunts throughout the season. Hunters were asked to keep the log to date as the hunting season progressed, and at the season's conclusion, logs were mailed to the KDFWR for analysis.

The Mail Carrier Survey represents the second survey used to monitor rabbit populations across the state. Mail carriers recorded rabbit and quail observations as they traveled their rural delivery routes during the last full week of July (6 delivery days). Survey cards provided space for observations of rabbits for each of the survey days. Observers also recorded the number of days surveyed, the length of the route, and the total miles driven. The mail carrier data is used to forecast the upcoming hunting season, monitor the population, and estimate rabbit productivity.

All surveys are strictly voluntary and we strongly encourage all Kentucky rabbit hunters and rural mail carriers to participate in these surveys. Hunter cooperators receive this report, detailing hunting season results, and expectations for the upcoming season. Cooperators also receive a new hunting log for the upcoming season and a small gift of appreciation for their participation. Participating mail carriers receive a subscription to *Kentucky Afield* magazine for their support.

RESULTS AND DISCUSSION

I. Rabbit Hunter Log Survey

Hunting logs were received from 87 hunters who averaged 14 hunting trips each for the season. Data was grouped into weekly and monthly subsets.

"Tidbits" from hunting logs:

- Hunter cooperators logged 1,198 hunts in 2015-16.
- Average size of hunting party = 2 hunters
- Average length of hunt = 3.6 hours
- Average number of dogs used per hunt = 4
- Total number of counties that cooperators hunted in = 89
- Number of rabbits jumped per hunt = 6.3/hunt
- Number of rabbits jumped per hour = 1.8/hour
- Number of rabbits killed per hunt = 2.7/hunt

Hunting pressure declined as the season progressed (Figure 1).

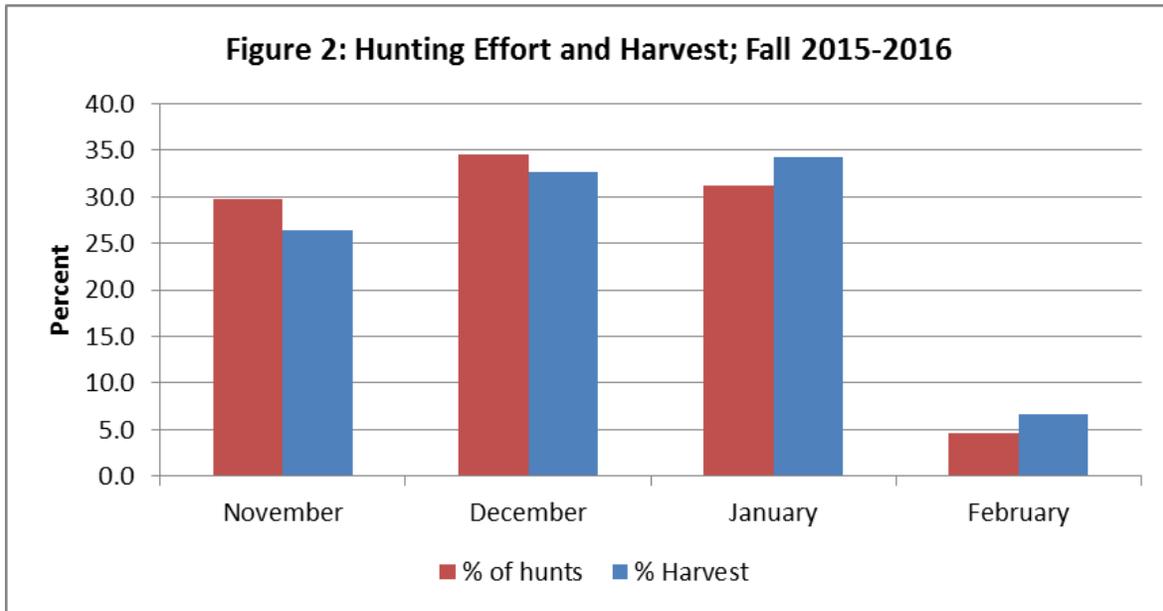
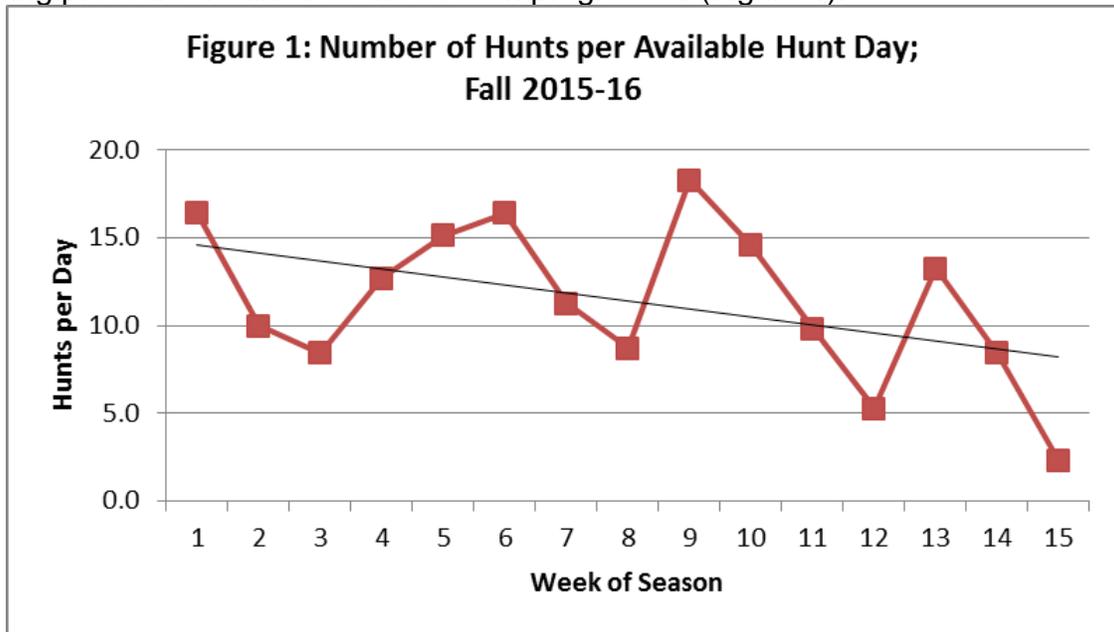


Table 2. Summary Statistics from the Rabbit Hunter Log Survey in Kentucky, 2010-2015 Seasons.

Statistics	2011-12	2012-13	2013-14	2014-15	2015-16
Cooperators	114	119	100	98	87
Hunts	1,959	1,880	1,406	1,413	1,198
Counties	105	108	97	93	89
Hunts/Hunter	17	16	14	14	14
Hours Hunted	7393.02	6861.91	4939.58	4983.00	4309.00
Dogs Used	8,586	7,958	5,552	5,518	4,899
Total Rabbits Jumped	12,875	12,782	9,726	9,173	7,579
Total Rabbits Harvested	5,702	5,436	3,851	3,797	3,193
Total Rabbits Wounded	334	387	268	297	236
Hunting Mortality (%)	47	45	42	45	45

Over the past five hunting seasons, hunting mortality (harvested and wounded individuals) remained less than 50% of the rabbits jumped (Table 2).

Table 3. Rabbit jump and harvest rates in Kentucky, 2011-2015 rabbit seasons.

Year	11-12	12-13	13-14	14-15	15-16
Total Hunts	1,958	1,880	1,406	1,413	1,198
Jumped/Hunt	6.58	6.80	6.92	6.49	6.33
Jumped/Hour	1.74	1.86	1.97	1.84	1.8
Harvested/Hunt	2.91	2.89	2.74	2.69	2.7
Harvested/Hour	0.77	0.79	0.78	0.76	0.74
Wounded/Hunt	0.17	0.20	0.19	0.21	0.20

II. Mail Carrier Survey Results

The Mail Carrier Survey provides a glimpse of what we can expect for the upcoming hunting season. The survey is the oldest in the program being completed for 56 years. Although no population estimates can be derived from this data, it does provide valuable trend information showing whether the population is up, down, or stable.

2016 Survey Statistics

- Mail Carriers returned 737 survey cards
- Total miles driven = 254,696
- Total rabbits seen = 3,408
- Statewide observation rate = 1.34 rabbits/100 miles traveled

Beginning in 2011, mail carrier data was no longer analyzed across eight different physiographic regions. Analyzing data across eight regions resulted in small sample sizes which can be far less accurate. Data is now grouped into 4 regions: West, Central, Bluegrass and East (Appendix A).

Table 4. Mail Carrier indices and rates of change in Kentucky, 1961-2016.

REGION	TOTAL RABBITS/100 MILES			PERCENT CHANGE	
	MEAN (average)			MEAN (average)	
	1961-2016*	2015	2016	1961-2016	2015 to 2016
West	-	0.84	0.84	-	0%
Central	-	1.51	1.48	-	-2.0%
Bluegrass	-	1.54	1.39	-	-9.7%
East	-	1.95	1.75	-	-10.3%
Statewide	2.08	1.45	1.34	-58.3%	-7.6%

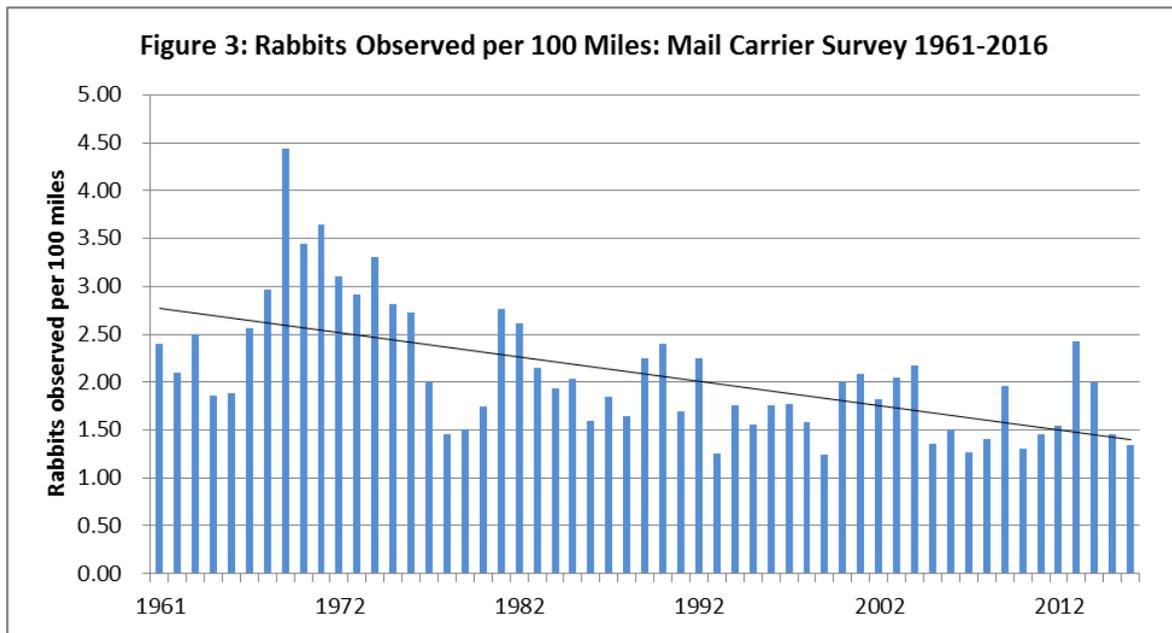
(-) = data was not analyzed by west, central, bluegrass, east until 2011

Over the last 56 years of this survey, the decline in the rabbit population is evident (Figure 3). The severe drop in population levels following the winters of 1977 and 1978 was dramatic and populations have been slow to recover. The overall drop in rabbit numbers since the late 1960's can be generally attributed to habitat loss because of land use changes and cleaner agricultural practices. However, recent years have seen a nice increase in the number of rabbits observed. We are a bit surprised to see declines in the mail carrier survey this summer. The winter was mild which should favor high overwinter survivorship and excellent breeding condition for does. However, we had an extraordinarily wet spring (especially May). Therefore, young rabbit survival, particularly early litters, may be to blame.

SUMMARY

The Mail Carrier Survey and the Rabbit Hunter Log Survey appear to be tracking each other well. Therefore, we can make predictions based on the Mail Carrier Survey results. This year, the East Region of the state once again led all regions in the number of rabbits observed, followed by the Central Region.

Overall, the 2015-16 rabbit season was good. Over the last 20 years, the population has remained fairly stable with bumps up and down. Last year, harvest rates and jump rates remained stable when compared to the previous season. The Mail Carrier Survey shows a 7.6% decrease in the number of observed rabbits statewide between 2015 and 2016. Excessive spring rains may have limited early litter reproduction. Generally, early litter success is a critical component of overall breeding season success and fall recruitment to the population. We reluctantly predict that hunting will be just slightly off of last year's pace. On the bright side, our population runs on a roughly 8-year cycle, so we are hopeful for an upswing in the years ahead!



ACKNOWLEDGMENTS

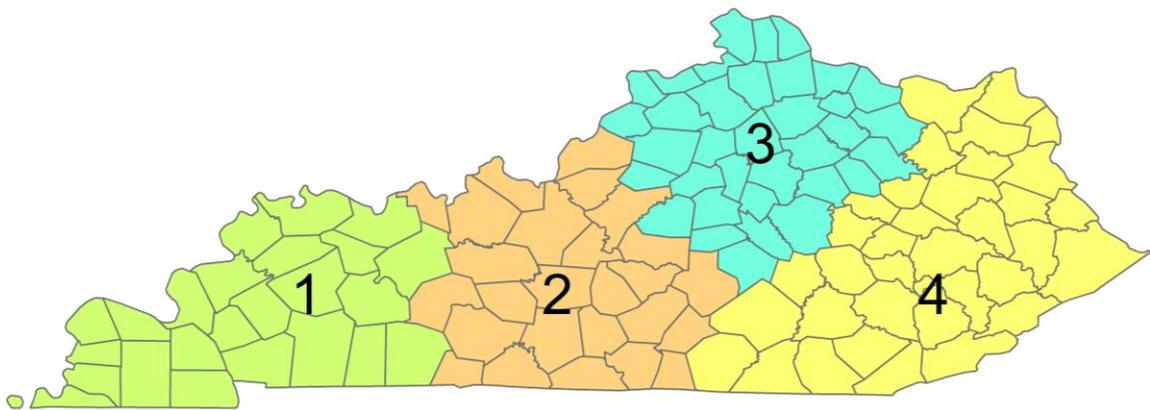
We would like to say a special thanks to all those who have participated in the various small game surveys over the years. Your cooperation provides us with valuable data necessary to make wise management decisions regarding rabbit populations and hunting seasons. With that in mind, we ask that you recruit your friends and neighbors who also rabbit hunt to join you in being a hunting cooperator. **We need many more cooperators to accurately track rabbit populations across the state.**

Hunting logs can be found on the internet fw.ky.gov/Hunt/Pages/Game-Species.aspx or by contacting the Kentucky Department of Fish and Wildlife Resources

at #1 Sportsman's Lane, Frankfort, KY 40601 (1-800-858-1549). Thank you to all who participated this year, and we hope to hear from you and all of your hunting partners in next season's surveys.

Cover image provided by Wes Siegrist (www.artofwildlife.com/miniaturepaintings23.html)

Appendix A



Legend

-  1 Western Region
-  2 Central Region
-  3 Bluegrass Region
-  4 Eastern Region